Microsoft Exchange Server

Chapter 1
Overview of the Deployment Process

Deployment Guide

Abstract

This chapter provides an overview of the Exchange 2000 deployment process and a framework for the remaining chapters within this guide. It takes you through a high-level understanding of the deployment process and lets you see the steps that you need to take to achieve your goal. Finally, it gives you an outline of a project plan that you can modify to suit the needs of your organization.

This is a preview edition of the Microsoft Exchange 2000 Server Upgrade Series. The final documentation will be available in November 2000.

© 2000 Microsoft Corporation. All rights reserved.

THIS IS PRELIMINARY DOCUMENTATION. The information contained in this document represents the current view of Microsoft Corporation on the issues discussed as of the date of publication. Because Microsoft must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Microsoft, and Microsoft cannot guarantee the accuracy of any information presented after the date of publication.

This document is for informational purposes only. MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS DOCUMENT.

Microsoft, Active Directory, Windows, Windows NT and the Windows logo are registered trademarks of Microsoft Corporation.

Other product or company names mentioned herein may be the trademarks of their respective owners.

Microsoft Corporation • One Microsoft Way • Redmond, WA 98052-6399 • USA

1000

CONTENTS

INTRODUCTION....1
Chapter Overview 1
Prerequisites 4
Organizational Types 4
Resource Requirements 5
Hardware 6
Software 6
Personnel 6
Time 8
Space 9

EXCHANGE 2000 IMPLEMENTATION PLAN....10
Pilot Phase 10
Deployment Phase 10
Communications 10
Communication Factors 10
Timescales 11
User Types 11
Organizational Communications Policy 11
Communication Resources 11
Education and Training 12
Exchange 2000 Administrator Training 12
Helpdesk and Technical Evangelist Training 13
User Training 13
Implement the Exchange 2000 Architecture 13
Synchronizing Active Directory with Exchange 5.5 13
Install Exchange 2000 Server 14
Install/Configure Client(s) 14
Test 14
Post Implementation Review Phase 14

SUMMARY....15
More Information 15

INTRODUCTION

Exchange 2000 is a complex e-mail system, and deploying it can be a complicated procedure. This guide intends to simplify this process, providing you with a series of easily understandable steps that will help you achieve your goal of implementing Exchange 2000.

The chapter is aimed at network managers, system integrators and consultants involved in Exchange 2000 implementations, either within their own organizations or for client companies. By implementing the procedures within this document, you should be able to deploy Exchange 2000 successfully in the following situations:

- upgrading from Exchange 5.5
- consolidating multiple Exchange 5.5 servers to Exchange 2000
- migrating from an alternative messaging system
- implementing Exchange 2000 where no e-mail system existed before (a Greenfield deployment).

These will be referred to as *upgrade*, *consolidation*, *migration,* or *new* implementation scenarios throughout this guide.

Chapter Overview

This guide consists of twelve chapters, each dealing with a specific aspect of the deployment process.

Chapter 2 – Configuring Active Directory for Exchange 2000

In this chapter, you carry out the configuration steps necessary for the correct configuration of Active Directory for the deployment of Exchange 2000. Exchange 2000 uses Windows 2000 Active Directory as its directory service for storing mailboxes, distribution lists and messaging object. Preparation of Active Directory is essential for the deployment of Exchange 2000, and this chapter shows you how to do this using utilities such as ForestPrep and DomainPrep.

Topics covered include:

- Security Requirements for installing Exchange 2000
- Preparing Active Directory using ForestPrep and DomainPrep
- Installing the Active Directory Connector
- Using the Active Directory Migration Tool

Chapter 3 – Deploying the Active Directory Connector

The Active Directory Connector (ADC) provides a method for linking the Directory Services in Exchange 5.5 to Windows 2000 Active Directory. You will already have covered the design and architectural aspects of the

ADC in Planning Chapter 4, "Connecting Active Directory to Exchange 5.5". Chapter 3 discusses the procedures for configuring the connector and setting up the connection agreements between the two directory services.

Topics covered include:

- The different versions of the ADC
- Creating Connection Agreements
- Using the ADC for directory synchronization
- Installing and Configuring the Inter-Forest Toolkit.

Chapter 4 – Installing Exchange 2000

With pre-configuration steps completed, Chapter 4 gets you started in installing Exchange 2000. This chapter covers the processes behind a successful installation of Exchange 2000 onto your first, second and subsequent servers. This chapter also describes the procedure to follow if for any reason the installation process fails.

- Preparing for possible upgrade issues
- Running Exchange 2000 Setup
- Recovering after a failed Exchange 2000 Installation

Chapter 5 – Outline of the Exchange 5.5 to Exchange 2000 Upgrade Process

Chapter 5 provides an overview of the upgrade process between Exchange 5.5 and Exchange 2000. In this scenario, your organization has already implemented Exchange 5.5 and you are now looking to use the benefits of Exchange 2000. The details of moving the various components within your Exchange 2000 site are covered in Chapters 6 and 7.

This chapter covers:

- Pre-requisites for Setup
- Preparing for possible upgrade issues
- Upgrading Exchange 5.5 SP3 to Exchange 2000
- Post-Upgrade Procedures

Chapter 6 – Moving Mailboxes and Public Folders

This chapter covers the specific procedures that comprise the Exchange 5.5 to Exchange 2000 upgrade path. In this chapter, you will concentrate on the procedures for moving users’ mailboxes and public folders in a quick and efficient manner, thus minimizing downtime.

This chapter covers:

- Preparing for mailbox moves
- The steps in the migration process
- Decommissioning Exchange 5.5 Servers

Chapter 7 – Migrating Transports, Connectors and Hubs

The second migration area on the Exchange 5.5 to Exchange 2000 path is the migration of transports, connectors and hubs. This is a more complex area than simply moving mailboxes and public folders, particularly if you are seeking to migrate a connector type (such as Systems Network Architecture Distribution Services or SNADS) which is not yet supported in Exchange2000.

This chapter covers:

- Upgrade considerations
- Roles and Responsibilities
- Upgrading bridgehead servers
- Rolling back the upgrade process

Chapter 8 – Implementing Front-End and Back-End Servers

Front-end and back-end servers are the two components resulting from the ability of Exchange 2000 to proxy Post Office Protocol v3 (POP3), Internet Mail Access Protocol r4 (IMAP4) and HyperText Transfer Protocol/Web-based Distributed Authoring and Versioning (HTTP/WebDAV) commands. This feature provides security and scalability benefits that allow you to connect very large numbers of clients into multiple Exchange 2000 front-end/back-end configurations.

This chapter covers:

- Promoting Front-End Servers
- Planning and Configuring Network Load Balancing
- Configuring SSL
- Operational Recommendations

Chapter 9 – Upgrading Other Messaging Components

Chapter 9 covers the upgrading of other messaging components, such as the Key Management Server (KMS) included with Exchange 5.5.

This chapter covers:

- The Microsoft Key Management Service
- Upgrading Chat servers

- Moving event script services
- Upgrading third-party software.

Chapter 10 – Tuning Exchange 2000 for Performance

Having installed Exchange 2000, you can now optimize the performance of your new messaging system. Chapter 10 discusses how to perform registry tweaks and hardware configuration changes to maximize the efficiency of your e-mail servers.

This chapter covers tuning the following areas:

- Message Transfer Agent
- SMTP transport
- Store and the Extensible Storage Agent
- Active Directory

Chapter 11 – Analyzing the Migration Process

OK, so the difficult bit is over. Now you need to review your deployment and to see whether or not it was a success and what you can do to improve matters. This chapter covers areas that you need to look at after the migration completes along with procedures you can use to gauge your users' reaction to the project.

This chapter covers:

- Migration Surveys
- Technical Indicators
- ROI Analysis
- Customer Satisfaction

Chapter 12 – Promoting an Exchange Pilot System to Production

Finally, chapter 12 discusses how to minimize risks during the migration process by implementing a pilot program and then migrating that pilot system to production. You will see the advantages and disadvantages of this approach and can use the job aids to assist you in the planning your pilot.

This chapter covers:

- The phases of the pilot deployment
- Planning for a pre-pilot
- Training requirements
- Contingency planning and risk analysis

Prerequisites

This guide assumes that the reader and implementer has a familiarity with networking concepts, server hardware, Windows 2000 and Active Directory. In addition, this guide assumes that you have reviewed the companion architectural guide (Architecture Chapter 1, "Overview of the Exchange 2000 Migration Planning Process"), and have created a suitable infrastructure for your network.

Organizational Types

To assist you in identifying which areas within this guide you need to cover, a list of the various different organizational types has been prepared in Architecture Chapter 1, "Overview of the Exchange 2000 Migration Planning Process". This classification is presented to help you identify with a specific administrative and networking model. It is recommended that you review this section to see which framework best fits your organization. The table below gives a summary of the acronyms for the different organizations.

Listing of Organizational Types

Main Organizational Types	
LIC	Large International Conglomerate
GHQ	Global Headquarters
LMO	Large Multinational Organization
LNO	Large National Organization
MNO	Medium National Organization
SNO	Smaller National Organization
SAO	Small Autonomous Organization
SLO	Single Location Organization
Branch Office Types	
RHQ	Regional Headquarters
RBO	Regional Branch Office
LBO	Large Branch Office
MBO	Medium Branch Office
SBO	Small Branch Office
Special Cases	
CO	Collaborating Organization
PE	Planning Expansion
MH	Multiple Headquarters
SS	Security Sensitive
TF	Telecommuter Friendly

Resource Requirements

Resource requirements for a large-scale deployment of Exchange 2000 can be quite significant. Job Aid 2 shows a complete project plan for the deployment of Exchange 2000 which, as you can see, this is no small undertaking.

What resources do you need to assist you with your deployment? That will depend on the size of your organization and the timescale in which you want to implement Exchange 2000.

The resources that you will require for an Exchange 2000 deployment fall into five categories.

- Hardware
- Software
- Personnel
- Time
- Space

Hardware

Hardware requirements are covered in Architecture Chapter 2, "Evaluating the Technological Factors" and Chapter 3, "Quantifying the Operational Characteristics". To summarize, these requirements are:

Item	Absolute Minimum	Recommended
Processor	Pentium-compatible 133 MHz processor or higher	High-end Pentium or Xeon. Dual/quad Xeon recommended for servers supporting large numbers of users
Memory	128 MB	At least 256 MB
Disk Space	500 MB of free disk space on the disk drive where you install Exchange 2000 200 MB of free disk space on the system drive	Plus allowance for users' mailboxes and public folders, typically 50-100MB per user.
CD-ROM drive	Fitted	
Monitor	VGA	SVGA

Software

The software requirements for your pilot system are described in detail in Deployment Chapter 4, "Installing Exchange 2000". These are summarized below:

Item	Comments

Windows 2000 Server, Advanced Server or Data Center Server	The version of Windows 2000 you require will depend on the size of your organization, the number of clients you wish to support and the features that you want to use, such as support for clustering.
Windows 2000 Service Pack 1	
Exchange 2000 Standard or Enterprise Edition	This will depend on whether you need to support an information store of larger than 16GB.
Office 2000 or Outlook 2000 (Optional)	Exchange 2000 works well with versions of Outlook other than Outlook 2000. Clients also include POP3, IMAP4 and HTTP/WebDAV.

Personnel

Exchange 2000 impacts your entire organization, so it should not be surprising that the personnel involved in its deployment will cross all boundaries within a company. The standard Exchange 2000 Deployment template (see Job Aid 2) calls for the following personnel, whom can be divided into project and permanent groupings.

Permanent Roles (in order of probable involvement)

- Network Administrator
- Messaging Administrator
- User Education/Training/Communication
- Desktop Administrator
- Infrastructure Administrator
- Intranet/Internet Administrator
- Logistics Management
- Browser Administrator

Project Roles

- Project Manager
- Deployment Administrator
- Testing/Quality Assurance Team

It is probable that only LMCs, LMOs, LNOs, and possibly some MNOs will have the resources and requirements for all of these levels of specialization. In addition, this definition does not include any existing members of staff who will undoubtedly have a role to play.

See Appendix A to this chapter for further details on what information to

report, how often, the training requirements and the amount of time each individual will need to dedicate to this project.

Chief Executive Officer/Managing Director

Because of the effect that implementing Exchange 2000 will have on your organization, it is only natural that the CEO will want to be informed about the progress of your deployment.

Chief Information Officer/IT Director

In most organizations, the CIO (or equivalent) will not be the hands-on architect of the deployment. However, the CIO will usually be the management sponsor for the Exchange 2000 project, and should be willing to provide the support for implementation at the board level.

Departmental Heads

Departmental heads are usually involved insofar as the mail implementation project cuts across departmental boundaries. Normally, the CIO will brief the departmental heads and ensure cooperation when, for example, requesting volunteers for the pilot program.

Network Manager/System Administrator

Normally the person who ends up doing most of the planning and day-to-day work on the deployment is the network manager, which *ipso facto* makes them the project manager. It is assumed that in most cases this will be the reader.

In SNO and SAO environments, the network manager will probably take on most of the other administrator roles as well.

Consultants/System Integrators

If you are the project manager but are not the organization’s network manager, chances are that you are a consultant or system integrator charged with the implementation of Exchange for a client.

Technicians/Server Operators

Technicians or server operators can help with the building of servers, installing the client software onto users’ machines, setting up labs, and carrying out various jobs within the pre-pilot and pilot phases.

Helpdesk Operators

If your organization runs a helpdesk, you will need to involve your helpdesk operators in the migration process.

Technical Evangelists

Technical Evangelists are very useful during the client deployment phase to provide first-line support for simple problems, thus preventing them from escalating to the helpdesk. For a more complete discussion of TEs, see the relevant section in Chapter 12, " Promoting an Exchange Pilot System to Production".

Pre-Pilot and Pilot Users

If you are running a pilot, you will need pre-pilot and pilot users, as detailed in Chapter 12, "Promoting an Exchange Pilot System to Production".

End Users

The people most often overlooked in a migration or deployment project are the ordinary users. Yet these are the very people who will be most affected by the change. Sadly, many companies and public bodies provide woefully little information to their end users. User training is one of the most important factors in a successful e-mail deployment—a message that you ignore at your peril.

The exception to this requirement is a simple upgrade from Exchange 5.5 to Exchange 2000, where the users are unlikely to notice any immediate change to their e-mail. You may want to consider not rolling out Outlook 2000 at the same time as Exchange 2000, as previous versions of Outlook work quite adequately with Exchange 2000. If you are planning to move to Outlook 2000 in an upgrade scenario, then implement the client and the server end separately. However, with a new implementation you will have to deploy the client at the same time as Exchange 2000.

Time

Time requirements will vary according to the size of the organization. This table gives an indication of the overall project time required for a mail migration to Exchange 2000.

Organization Size	Number of Users	Typical Organization Type	Deployment Project Time
Small	Less than 500	SNO, SAO, RBO, LBO	3 months
Medium	500 to 5000	MNO, RHQ, RBO	6 months
Large	5000 to 50,000	MNO, LNO, LIO	9 months
Very Large	50,000+	LNO, LIO, LIC	1 year

Additional factors that will tend to complicate this process are:

Factor	Increase or Decrease	Comment
New implementation of Exchange 2000	Increase	Additional time required for deploying client software, full user training program needed.
Highly distributed company	Increase	More complex to coordinate deployment activities, may need to implement phased rollout

Public Body	Increase	More complex approvals process, may be difficult to secure departmental agreement.
LIC/LIO	Increase	RHQs may not buy in to implementing Exchange 2000 in the same timescales.
SLO	Decrease	Traveling time not a factor, single LAN.
Migration	Decrease	Can implement client upgrades separately or concurrently to mail system upgrade; reduced user training requirement.
Consolidation	Decrease	Normally no architectural changes required. Also client upgrades can be carried out separately or concurrently.

Space

During an Exchange deployment, you will require space for the following activities:

- Planning (somewhere quiet!)
- Lab testing
- Pre-pilot and pilot program
- User and technical training
- Server installation

These requirements are discussed further in Chapter 12, "Promoting an Exchange Pilot System to Production".

The complete Exchange 2000 implementation plan can be divided into the following sections, as shown in Job Aid 2. These map to the sections contained within the Microsoft Solutions Framework (MSF) project plan.

- Vision/Scope Phase
- Planning Phase
- Development Phase
- Proof of Concept Phase
- Pilot Phase
- Deployment Phase
- Post Implementation Review Phase

In this part of the guide, you will be covering the final three sections.

For more information on what MSF is and how to apply it to this project, see the MSF Datasheet:

http://www.microsoft.com/trainingandservices/content/downloads/datasheets/MSFDatasheet.doc

Pilot Phase

Chapter 12, “Promoting an Exchange Pilot System to Production,” covers the issues involved in running an Exchange 2000 pilot.

Deployment Phase

The deployment phase consists of the following sections:

- Communications
- Education/Training
- Implementing the Exchange 2000 Architecture
- Synchronizing Active Directory with Exchange 5.5
- Install/Configure Client(s)
- Test

Communications

The importance of communications during the deployment phase cannot be overstated. You need to ensure that information on the goals, implications and progress of the implementation project are passed to all levels within your organization.

Communication Factors

To achieve effective communication, consider the following factors:

- Timescales
- User types
- Organizational communications policy
- Communication resources

All of these should be considered and addressed in your communications strategy document.

Timescales

With tighter timescales, effective communication becomes even more important. If necessary, look at delegating the communications process so that a particular individual within the project team is responsible for passing information to the remainder of the company.

User Types

Most users can be categorized into the following types:

- Managerial
- Technical
- End-User

It is important to tailor the information that you impart to the intended recipient. Appendix A indicates the type of information that should be distributed at the different levels within an organization. Consider the complexity, technical content, presentation style, and timings to maximize the impact and retention of your information.

Organizational Communications Policy

Organizational communications policy will vary enormously. For example, there are cases where e-mail has been implemented within military environments, with the restriction that you could e-mail only your boss and your subordinates.

Organizational communications policy will cover such areas as:

- Whether managers tend to brief their own departments
- Restrictions on use of communication methods, such as distribution lists
- Political implications, especially in a LIC, LIO or public body.

Communication Resources

The next item to examine are the resources that you have available to distribute your message. Examples include:

- Notice boards
- Organizational Newsletter
- Company meetings
- E-mail (if currently implemented)
- Public Folders
- Intranets
- Video presentations
- Video streaming
- DriveTime audio
- Morse Code or Semaphore

Education and Training

User education in an Exchange 2000 deployment is usually of three main

types:

- Exchange 2000 Administrator training
- Helpdesk and Technical Evangelist training
- End-user training

However, in larger organizations, these may be divided further.

Exchange 2000 Administrator Training
Examine the different roles within an Exchange 2000 organization. Exchange 2000 provides three discrete levels of administrative control which you can then apply to separate administrative groups. These levels are:

- View-Only Administrator
- Administrator
- Full Administrator

View-Only Administrator
View-Only Administrator can look but not touch. You might make someone a View-Only Administrator if you wanted them to see configuration settings but not be able to change them. Examples of this are administrators from partner organizations in a CO or MH environment, or server operators who are not qualified or authorized to make changes to the Exchange 2000 servers. View-Only Administrator training normally incorporates training on how to use Microsoft Management Console (MMC), and how to access a particular property page.

Administrator
Administrators can view and change settings within the Exchange 2000 organization but cannot assign permissions to other people. This is the normal level of access that you would assign to IT support personnel who have been specifically trained on Exchange 2000.

Exchange Administrators should be given full training in Exchange 2000. For training options and a list of Microsoft Certified Training and Education Centers (CTECs), see http://www.microsoft.com/trainingandservices/default.asp.

Full Administrator
For security purposes, keep the number of support personnel in the Full Administrator role to a minimum, in the same way that you would restrict the membership of the Domain Admins group in Windows 2000. Full Administrators can add other users and give them permissions within the Exchange 2000 organization.

Remember that the user account used to install Exchange 2000 is

automatically given Full Administrator rights at the Organizational level.

Helpdesk and Technical Evangelist Training

This is covered in Chapter 12, “Promoting an Exchange Pilot System to Production”.

User Training

User training is covered in Chapter 12, “Promoting an Exchange Pilot System to Production”.

Implement the Exchange 2000 Architecture

From your study of the Architecture section, you should have created a Migration Strategy and Standards Document to apply to your network. You should also have installed Windows 2000 and deployed Active Directory. Now is a suitable time to review your migration strategy document in the light of the deployment work that has been carried out.

Once you have re-examined your documentation, start the procedure for configuring Windows 2000 for Exchange 2000. This process covers the following areas:

- Ensuring Active Directory Functionality
- Installing the Active Directory Connector
- Extending the Active Directory Schema and Preparing the Forest
- Preparing the Windows 2000 Domains

You will cover these procedures in Chapter 2, “Configuring Active Directory for Exchange 2000”.

Synchronizing Active Directory with Exchange 5.5

If you are upgrading from Exchange 5.5 to Exchange 2000, you must synchronize Active Directory with the Exchange 5.5 Directory Service. You should already have covered the theoretical side of this procedure in Chapter 4, “Connecting Active Directory to Exchange 5.5”.

Synchronizing Active Directory with Exchange 5.5 involves installing the Active Directory Connector (ADC) and configuring connection agreements, which can be either from Active Directory to Exchange 5.5, from Exchange 5.5 to Active Directory, or both. You have already covered the installation of the ADC in Chapter 2, “Configuring Active Directory for Exchange 2000”. For the practical side of configuring the Active Directory Connector and creating connection agreements, see Chapter 3, “Deploying the Active Directory Connector”.

Install Exchange 2000 Server

Once you have implemented your Exchange architecture, you are ready to install Exchange 2000.

Installing Exchange 2000 requires the following procedures:

- Preparing for installation issues
- Exchange 2000 installation procedure
- Recovering after a failed Exchange 2000 installation

These processes are covered in detail in Chapter 4, “Installing Exchange 2000”.

Install/Configure Client(s)

If you are doing an upgrade from Exchange 5.5. to Exchange 2000, you may already have Outlook 2000 deployed and therefore no do not need to make any changes to your users’ desktops. Client options with Exchange 2000 are similar to those with Exchange 5.5, allowing for a significant choice of messaging access.

Installing and configuring clients is covered in Deploying Chapter 12.

Test

Testing the success of the deployment can be carried out with a similar process used when testing the pilot. Areas that should be tested are:

- Server
- Client
- Network
- Backups & restores
- Administrative routines
- Permissions
- Synchronization between Active Directory and Exchange 5.5 (if applicable)

Chapter 11, “Analyzing the Migration Process,” details the tests that you can apply to your Exchange 2000 implementation.

Post Implementation Review Phase

Once you have completed a successful deployment, you can review the entire implementation. The main purpose of this review is to document the state of the network in its new configuration. Chapter 11, “Analyzing the Migration Process” deals with the post implementation review phase.

SUMMARY

The deployment of Exchange 2000 can be a complex and involved process. However, with good planning and preparation, you can make the project run smoothly and ensure a positive outcome.

This chapter has introduced you to the content within the remainder of the deployment guide and discussed many of the additional issues of an Exchange 2000 rollout. Your next task is to ensure that your Active Directory implementation is suitable for Exchange 2000. This is covered in Chapter 2, “Configuring Active Directory for Exchange 2000.”

More Information

The following locations have more information that will assist you with your Exchange 2000 deployment.

Windows 2000 Hardware Compatibility List - http://www.microsoft.com/hcl

Exchange 2000 Home Page – http://www.microsoft.com/exchange

Microsoft Exchange 2000 Resource Kit http://mspress.microsoft.com/prod/books/4355.htm

Appendix A – Organizational Roles and Responsibilities

This table shows the levels of involvement and the effects that an Exchange 2000 migration or deployment will have on the various personnel within an organization.

Title	Role	Looking for	Concerns	Briefing Level	Report on	Reporting Frequency	Time Demands	Training Required	Deployment Template Role
Chief Executive Officer/ Managing Director	Overall responsibility for success of organization	The Exchange 2000 deployment should deliver real benefits to the company	If the project has a negative effect on the operation of the organization	General, strategic, non-technical	Milestones achieved, any issues that might affect the functioning of the organization	Occasional	Minimal. Briefings only	Normal user training	None
Chief Information Officer/IT Director	Representing the project at board level. Obtaining management support and coordinating cross-departmental activities, such as briefing departmental heads.	The Exchange 2000 project should be seen to be successful, cost-effective and should make a positive contribution to IT strategy and management.	If the deployment reflects badly on the IT department	Detailed, technical, both strategic and immediate. Should address any issues relating to defending the project	Overall progress, milestones achieved	Regular	If project manager, then considerable. Otherwise, supervising project manager and delivering high-level briefings.	Advanced user training.	Possibly Project Manager
Depart	Ensuring the	Exchange	That the	General,	Overall	Occasional	1-2 days on		Normally

ment Heads	smooth and efficient running of their department	2000 should make their departments easier to manage.	deployment will mean extra work, disruption and increase problems for the users	non-technical, focus on end-user benefits, high sales content to get dept. heads to buy in to program	progress, effects on their departments		big projects and ff briefing users on aims of		none.
Users	End users of email system	Exchange 2000/Outlook 2000 should make them more effective in their jobs	That Outlook 2000 will be difficult to learn, be unstable and make doing simple tasks more difficult.	General briefings on the implications of the migration and the changes that will be made. Include preparations for what they need to do before the changeover day, such as cleaning out mailboxes of unnecessary mail.	Progress of project, issues that affect users	As required.			